

## CALIFORNIA PORK-PRODUCTION DATA

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California is a deficient area as far as pork products are concerned. The state produces not more than 40 per cent of the pork that it consumes. Live hogs are shipped in from western states like Idaho, midwestern states like Nebraska and Kansas. Processed pork products are also shipped in from markets east of the Rocky Mountains. Being in an import area, the producer here receives the benefit of a price differential over such markets as Omaha--generally about \$1.00 per hundred on a live-weight basis. California is not considered a great hog-producing state in the same sense as Iowa, because the production of grain concentrates is much less. Pork production depends on the available supplies of barley and grain sorghums; of protein concentrates such as tankage, fish meal, linseed meal, and cottonseed meal; and of pasture, waste products, stubble, and garbage. None of these are considered human foods.

Hogs are produced in many ways within the state; the following are typical examples:

A. Those fed entirely on grain, pasture, hay, and some protein feeds. In such systems the pigs are fed so that they attain a market weight in the least possible time.

B. Those fed the same as under A until they weigh about 75 pounds, then turned into grain-stubble fields, and finally brought in and finished. Under such a system much of the growth and gains can be secured with products that would otherwise go to waste. Both schemes are common in the grain-producing sections.

C. In Shasta County, pigs are grown largely as feeders, to be sold and finished on rice stubble, grain, or garbage. Since the war began, the desired weight for a feeder pig is no longer 50 to 60 pounds; it is 75 to 80 pounds for pigs utilizing stubble fields and crops, about 100 pounds for pigs consuming the rich garbage from military camps.

D. Where garbage is fed (near cities and military camps), sometimes little if any grain is used. In other cases grain and garbage are given to lactating sows and fattening pigs.

There is a definite place for pork production in California. Hogs are efficient in synthesizing

fats from carbohydrates. They multiply fast and may be readily disposed of. They are able to convert grains, by-products, waste material, and garbage into meat. Though limited in capacity, they are good foragers and consumers of grass; and they are proficient in harvesting (hogging down) corn, the grain sorghums (figs. 1 and 2), cowpeas, and other crops (for example, pumpkins and melons). Because green feed is available all year and because the climate is mild, sows can regularly produce two litters annually.

### Production Data

The following production data are based upon cost studies conducted by the California Agricultural Extension Service, checked with producer opinion:

Average number of litters farrowed per sow	
per year . . . . .	1.6
Average number of pigs weaned per litter .	6.1
Average number of pigs marketed per litter	5.7
Average number of pigs weaned per sow	
per year . . . . .	9.8
Average number of pigs marketed per sow	
per year . . . . .	9.1

Even though it is theoretically possible to product two litters annually, in practice there may be difficulties. On some farms, because of local conditions, there is only one litter a year; and in some garbage-feeding establishments the common practice is to produce three litters in two years, thus allowing the pigs to remain with their mothers as long as 12 weeks before weaning. The average number weaned and marketed is low because of some losses in grain-feeding establishments and larger losses among young pigs in garbage plants. These facts are also reflected in the number weaned and marketed annually from the average sow, the sow being regarded by many as the unit of production.

### Feed Necessary

For each 100 pounds of live hog produced in California,<sup>4</sup> 500 pounds of concentrates or their equivalent will be required; this includes the feed required for maintenance of the breeding stock.

In California this average figure is reduced to 400 pounds where pasture, farm wastes, and stubble

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<sup>4</sup>Cost studies conducted by the California Agricultural Extension Service; and Experiment Station data.



Fig. 1.--Double dwarf milo and cowpeas. Reading from the top: before, during, and after harvest. The harvesters were young pigs weighing 85 pounds when harvest began.





Fig. 2.--Double dwarf milo. Reading from the top: before, during, and after harvesting by pigs.



are utilized to the extent of substituting for 100 pounds of concentrates. Because 35 per cent of California hogs receive garbage either as the total ration or as a part of it, the average amount of concentrates used in pork production is further reduced. According to estimates, the amount of garbage fed replaces 80 pounds of concentrates necessary to produce 100 pounds of pork. Only 320 pounds, therefore, of threshed or processed concentrates are consumed on the average by California hogs for each 100 pounds of live hog produced (500 pounds minus 100 pounds for farm wastes and pastures minus 80 pounds for garbage utilized equals 320 pounds concentrates actually used in producing 100 pounds of pork).

For California hogs, the concentrates consumed for 100 pounds of gain average somewhat as follows:

	Pounds
Barley or equivalent . . . . .	274
Tankage or equivalent (7.5 per cent) . . . . .	24
Alfalfa hay or equivalent (5 per cent) . . . . .	16
Salt and lime (2 per cent) . . . . .	6

Of the total feed consumed, garbage represented 20 per cent and is included in this tabulation.

During the year 1942, about 197,000,000 pounds of live hog was produced. The feed consumed by these hogs included many thousand tons of garbage; hay and grass from many acres of land; wastes of all kinds; and many acres of barley, wheat, and rice stubble. In addition they were fed 270,000 tons of barley or equivalent; 24,000 tons of 60 per cent tankage or equivalent; 16,000 tons of alfalfa hay or equivalent; and 6,000 tons of salt and lime.

#### Land Used

In 1942 the feed production for California hogs required 425,000 acres of barley or equivalent, 4,000 acres of alfalfa hay, and about 20,000 acres of alfalfa pasture or equivalent--a total of nearly 450,000 acres. This does not include the land occupied by garbage plants or by hog houses and other equipment. On the basis of land used for feed production, 438 pounds of live hog was produced per acre.

#### Labor Required

The total labor required for the production of barley, hay, and pasture or equivalent was 1,485,000 man-hours. According to cost studies made by the California Agricultural Extension Service and by a packing plant, the labor required for producing 100 pounds of live hog is as follows:

	Man-hours
For the production of feed, including barley, tankage, and alfalfa hay or equivalents . . . . .	1.3
For the care of the breeding herd, growing and fattening pigs . . . . .	3.5
Total labor necessary to produce 100 pounds of live hog (fed on grain) . . . . .	4.8

In an average garbage plant the extra cost of handling feed, the cleaning costs, and the greater number of death losses bring the necessary man-hours to about 5.8.

#### Carcass Yield and Nutrient Values

The average California hog yields 75 per cent if slaughtered shipper style with the head on and the leaf fat in. If slaughtered packer style (head off and leaf fat removed) it yields usually about 70 per cent. In 100 pounds of live hog<sup>5</sup> weighing 225 pounds there are about 49.3 pounds of water, 2.5 pounds of mineral matter (ash), 13.1 pounds of protein, 30.6 pounds of fat, and about 4.5 pounds of fill.

In terms of energy this would represent, for protein and fat combined, a total of 163,100 calories for each 100 pounds of live hog. For each crop acre going into pork production the yield would be 714,378 calories. If it takes 4.8 man-hours to produce 100 pounds of pork when grain is fed, then each man-hour spent would result in 33,938 calories of energy produced.

#### Pork Products

The produce from slaughter represents edible and inedible parts. Such inedible products as bone, hair, and blood are processed and become, for example, tankage and bone meal for animal feeding, and certain types of fertilizers. The average yield of tankage per hog is 3.6 pounds.<sup>6</sup> The edible products are consumed as fresh pork (for example, pork loin) and as cured or processed products (for example, smoked hams and bacon). An important advantage of processed products is that they may be stored for long periods without loss and with a minimum of refrigeration.

#### Suggestions for Pork Producers

In times when protein concentrates are difficult to obtain, it seems wise to feed them when they are most needed; fast-growing pigs weighing 20 to 80 pounds need more protein than 150-pound fattening pigs, and sows producing large quantities of milk need more protein than dry sows or even pregnant ones.

The use of green pastures reduces the concentrates necessary to produce a unit of gain; lowers production costs; provides sanitary surroundings; and furnishes valuable proteins, salts, energy, and vitamins.

Such crops as the grain sorghums with cowpeas furnish a well-balanced diet; and the 100-pound pig can harvest the crop himself, thus saving time and labor (figs. 1 and 2).

When plenty of feeds like barley are available, the producer may want to market heavy hogs. When concentrates are scarce and pasture is plentiful, he may sell feeder hogs to those who have rice stubble, garbage, or other feeds rather than attempt to finish them himself.

<sup>5</sup>Hogan, A. G., L. A. Weaver, A. T. Edinger, and E. A. Trowbridge. The relation of feed consumed to protein and energy retention. Missouri Agr. Exp. Sta. Research Bul. 73: 18. 1925.

<sup>6</sup>Aldrich, Paul I. (editor). The packers' encyclopedia. 529 p. (See specifically p. 135.) Published by the National Provisioner, Chicago, Ill. 1922.